

Work Order ID 91998

October-19-12 12:47:42 PM

Item ID: 647.1602

Accept

Revision ID:

Item Name: Doubler Assembly

Start Date: 19/10/2012 Start Qty: 1.00

1

Required Date: 02/11/2012 Req'd Qty: 1.00

1

Reference:

Approvals: Process Plan: ML5 Date: 12-10-19 Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
----------	--------------	--	--	--	--	--	--	--	--

647.1600	N/C								
----------	-----	--	--	--	--	--	--	--	--

110 Pick Kit 0.00

110

Packaging

Packaging

120 0.00

120

Small Fab

Small Fab 0.00

Memo

1- Assemble nutplate as per dwg

130 QC5- Inspect part completeness to step on W/O 0.00

130

QC

Quality Control

0.00 OAS
16
0.00 13/01/22

138/145

Page 1

4

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear				General						
				Bending <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>			
				Centre Not Concentric to O/S <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>			
				Cracks <input type="checkbox"/>	Broken/Damaged <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>			
				Crushed/Crimped. <input type="checkbox"/>	Burrs <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>			
				Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Part Moved <input type="checkbox"/>				
				Heat Treat <input type="checkbox"/>	Countersink <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>				
				Inspection Strip in Tube <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Other <input type="checkbox"/>			
				Ripples in Bend <input type="checkbox"/>	Drill Holes <input type="checkbox"/>					
				Torque Waves in Extrusion <input type="checkbox"/>	Drawing <input type="checkbox"/>					
				Turning Sequence <input type="checkbox"/>	Finish <input type="checkbox"/>					
				Wave/Twist in Tube <input type="checkbox"/>	Folio <input type="checkbox"/>					

Work Order ID 91998

October-19-12 12:47:42 PM

91998

Page 2

Item ID: 647.1602

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Doubler Assembly

Stop

NS2

Start Date: 19/10/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 02/11/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:		Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: ST/BA	0.00							

140

Packaging

Memo

0.00

IX

SP
13-4-23

Packaging

***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND
REV***

150

QC21- Final Inspection - Work Order Release

0.00

13/4/24 DJ

150

QC

Quality Control

Memo

0.00

MF
13-4-24

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other			
Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled

Picklist Print

October-19-12 12:47:47 PM

Page 1

Work Order ID: 91998

91998

Parent Item: 647.1602

647 1602

Parent Item Name: Doubler Assembly

Start Date: 19/10/2012

Required Date: 02/11/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 12.10.04 NEW ISSUE DD VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

647.1613		Manufactured	No		92522		Each	0.0000	**	1		13-4-18	
647 1613													
Doubler													
MS21059-3		Purchased	No				Each	250.0000	**	4			
MS21059-3													
Nut Plate													

		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>								
		ST316	250									
		123023	50									
		123301	200									
CCR264SS3-04	Purchased	No	Each	646.0000	**	4	13-4-18					
CCR264SS3-04												
RIVET												

		<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>								
		ST327	200									
		123352	200									
		ST331	446									
		17997	446									
8 13-4-18												

CCR264SS3-03

123265

8 13-4-18

See ATTACHED

E MAIL

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order: _____			DISPOSITION			AGAINST DEPARTMENT/PROCESS					
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description		Sign & Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
				Bending <input type="checkbox"/>	Grain <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>				
				Centre Not Concentric to O/S <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>				
				Cracks <input type="checkbox"/>	Broken/Damaged <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Weld <input type="checkbox"/>				
				Crushed/Crimped. <input type="checkbox"/>	Burrs <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>				
				Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Part Moved <input type="checkbox"/>					
				Heat Treat <input type="checkbox"/>	Countersink <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>					
				Inspection Strip in Tube <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Other <input type="checkbox"/>				
				Ripples in Bend <input type="checkbox"/>	Drill Holes <input type="checkbox"/>						
				Torque Waves in Extrusion <input type="checkbox"/>	Drawing <input type="checkbox"/>						
				Turning Sequence <input type="checkbox"/>	Finish <input type="checkbox"/>						
				Wave/Twist in Tube <input type="checkbox"/>	Folio <input type="checkbox"/>						

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
ACCO, INCORPORATED. ANY REPRODUCTION, IN PART OR WHOLE, WITHOUT
THE WRITTEN PERMISSION OF ACCO, INCORPORATED IS PROHIBITED.

NOTES:

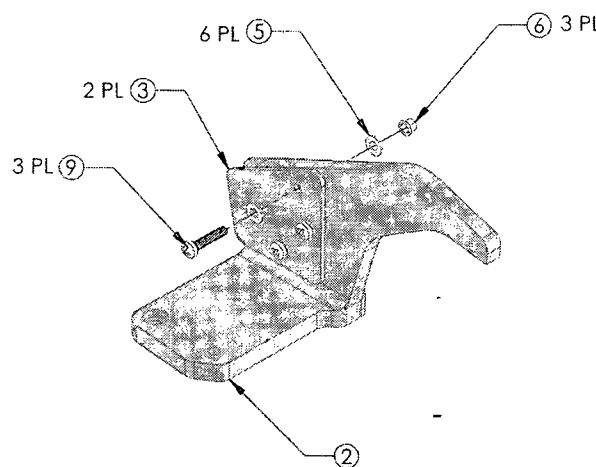
1 MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-250/12

2 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4

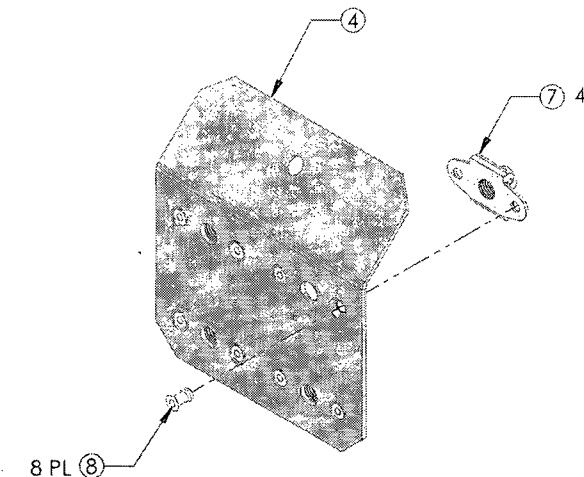
3 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK;
CARDINAL 4860-50 PRETREATMENT PRIMER
PRIME IAW MIL-P-23377J TYPE I CLASS N

4. DEBURR AND BREAK ALL SHARP EDGES

5. IDENTIFY IAW MPP-120



647.1601 SHOWN EXPLODED



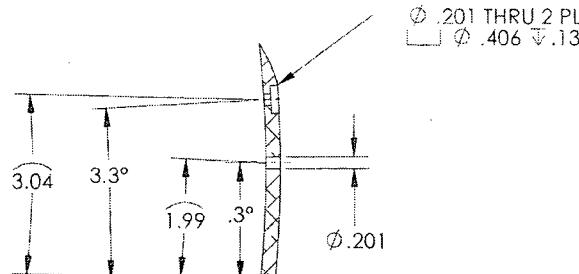
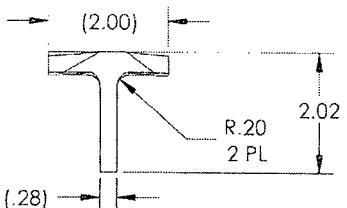
647.1602 SHOWN EXPLODE

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 91998 MLC

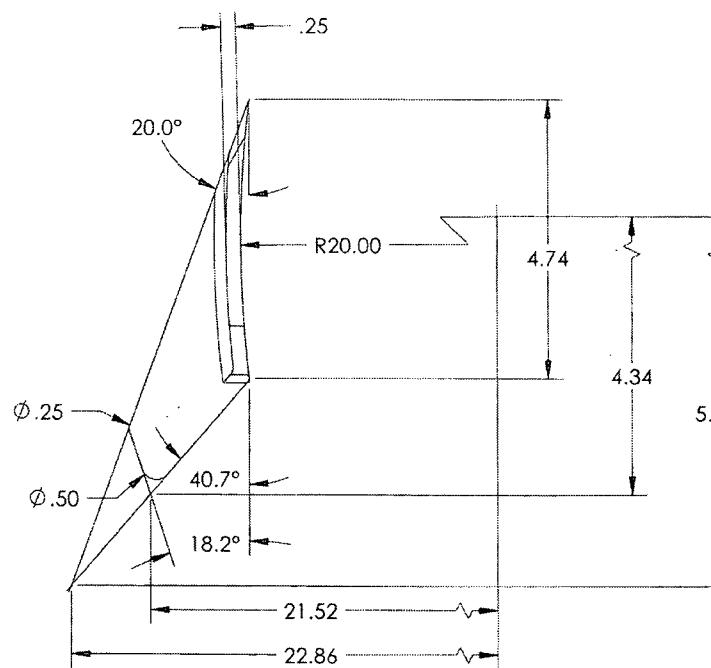
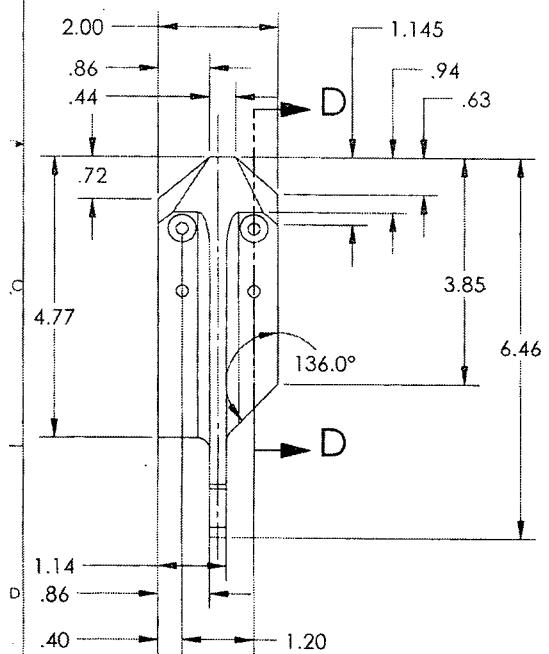
12-10-19

1 2 3 4 5 6 7 8 9
THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF
APICAL INDUSTRIES AND IS RESTRICTED IN PART OR WHOLE FROM BEING
MADE AVAILABLE TO ANYONE EXCEPT THOSE EMPLOYEES OF APICAL INDUSTRIES
WHO ARE DULY AUTHORIZED.

91998



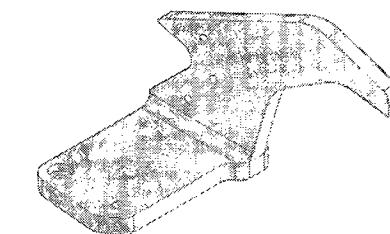
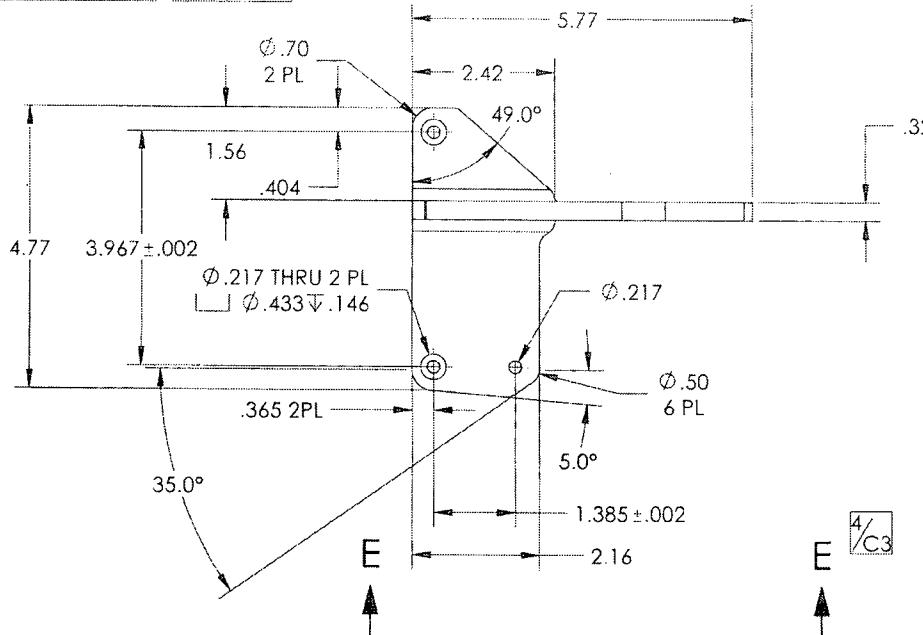
SECTION D-D



647.1610

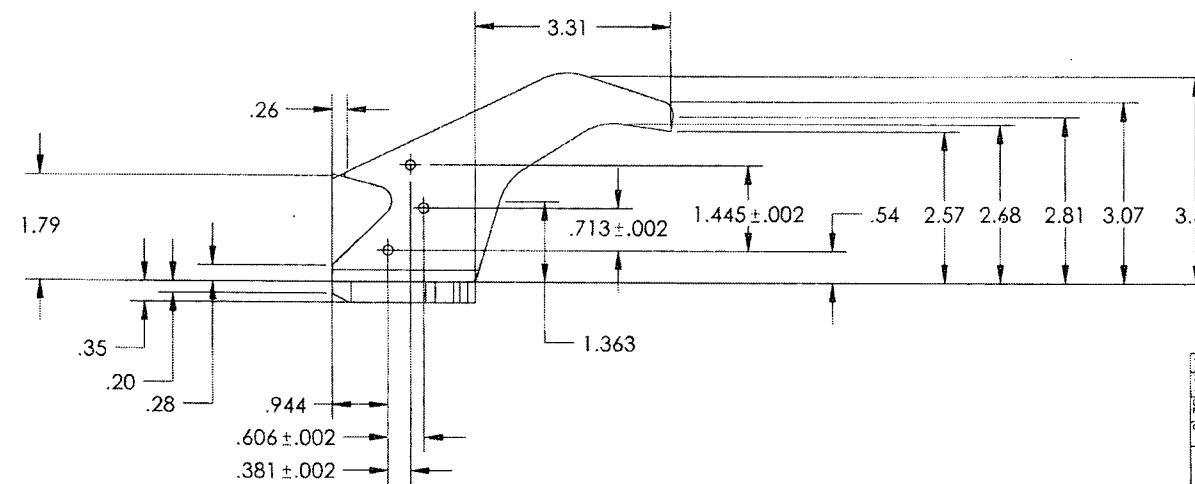
ORIGINAL DATE	04/07/05	REVISED DATE	07/16/05
DESIGNER	G. P. FERGUSON	APPROVING	P. PRANG
DRAFTER	J. GARNER	APPROVAL	P. PRANG
DRAWING APPROVAL			
P. PRANG			
CONTRACT NO.			
APICAL INDUSTRIES			
2608 TEMPLE HEIGHTS DR.			
OCEANSIDE, CA. 92056-3512 (760)724-5300			
WIPER DEFLECTOR ASSY			
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES	INCHES	DATE ISSUED	10/05
INCHES	INCHES	REVISION	07/16/05
1 INCH = 25.4 MM	1 INCH = 25.4 MM	SCALE	N/C
3 PLACE DECIMAL	3 PLACE DECIMAL	100%	
INCHES	INCHES	100%	
647.1600	647.1600	100%	
07/16/05	07/16/05	100%	
1 SHEET	2 OF 6	100%	

THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF
APICAL INDUSTRIES AND IS RESTRICTED BY PART 101 OF THE TRADE AGREEMENT
THE AUTHORISATION OF APICAL INDUSTRIES IS REQUIRED
FOR ANY REPRODUCTION OR DISSEMINATION.



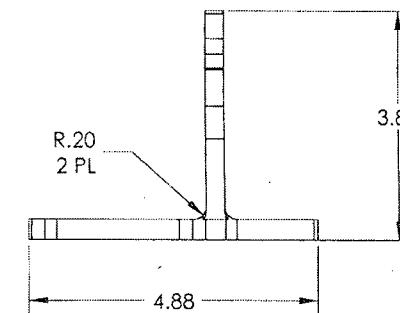
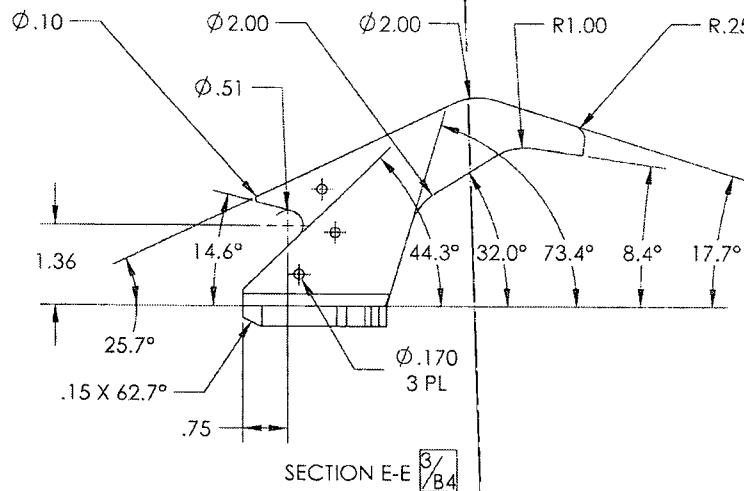
647.1611

E 4/C3



PRINT DATE	04/09/98	REVISION	D
SPANNED BY	1 CATERPILLAR	CHIEF	BEAVER
DRAWING APPROVAL			
SP-A-00			
CONFIRMED			
APICAL INDUSTRIES			
2608 TEMPLE HEIGHTS DR.			
OCEANSIDE, CA 92056-3512 (760)724-5300			
WIPER DEFLECTOR ASSY			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
1 PLACE DECIMAL ± .01			
2 PLACE DECIMAL ± .001			
3 PLACE DECIMAL ± .0001			
REV	C-1	DATE	647.1600
W/C	07/02/98	NO	N/C
SCALE	None	SHEET	3 OF 6

THE INVENTION CONFERRED IN THE DRAWING IS THE EXCLUSIVE PROPERTY OF
APKAL INDUSTRIES AND PROPERTY FOR A PART OF WHICH WITHOUT
THE WRITTEN PERMISSION OF APKAL INDUSTRIES IS PROHIBITED.



ORIGINAL DATE 10/01/09	REV. NO. C-1	APICAL INDUSTRIES		
SPK/WTB 1	SPK/WTB P-PAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		
DRAWING APPROVAL P-PAVO				
CONTRACT NO.		WIPER DEFLECTOR ASSY		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES 1 PLACE DECIMALS .25 2 PLACE DECIMALS .25 3 PLACE DECIMALS .25		SIZE	CALLIGRAPHY	ENG. NO.
		B	D7M26	647.1600
		SCALE: 1/4" = 1'-0"		REV. N/C
		SHEET NO. 1 OF 1		SUBJECT A-204

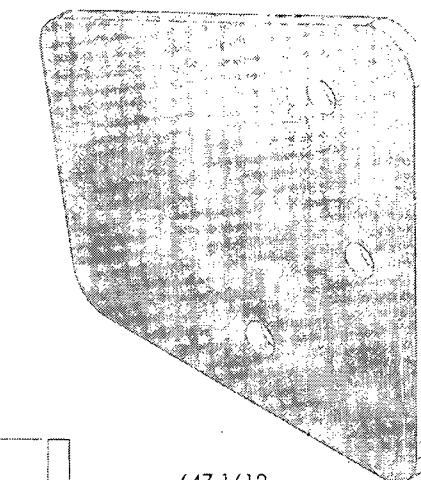
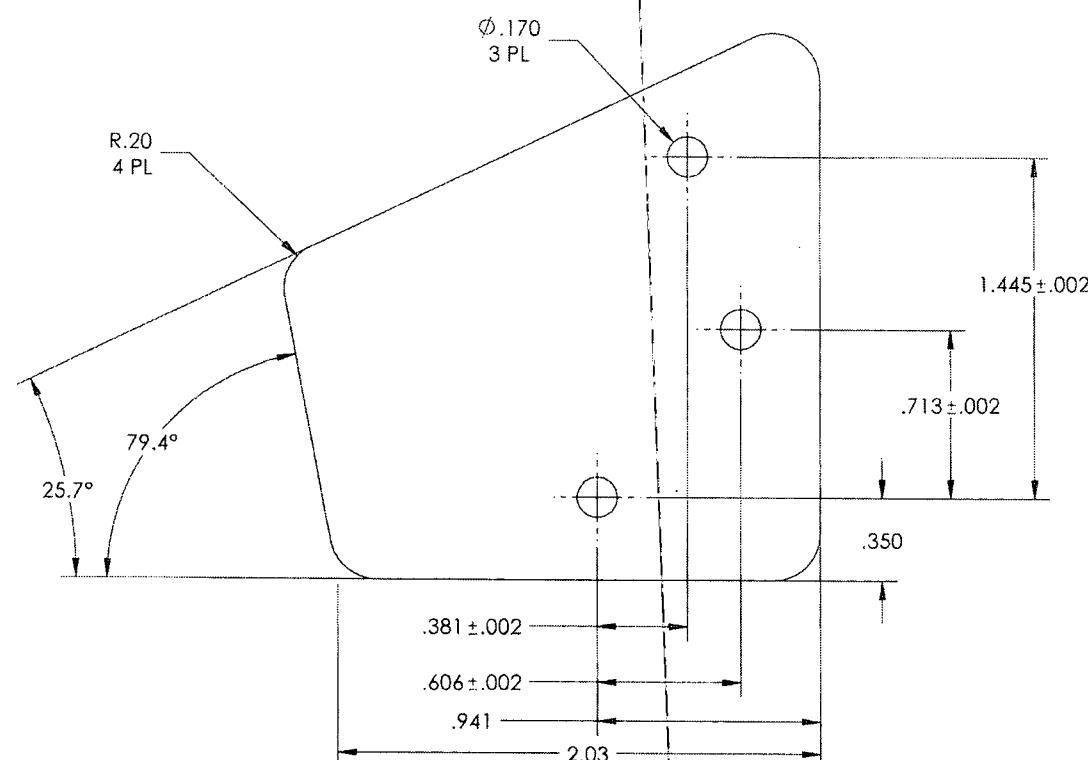
1 2 3 4 5 6 7 8 9/998

ALL INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF APICAL INDUSTRIES INC.
SPECIFICATIONS, DRAWINGS, DESIGNS AND RELATED DATA ARE THE EXCLUSIVE PROPERTY OF APICAL INDUSTRIES INC. THEY ARE TO BE KEPT CONFIDENTIAL AND ARE NOT TO BE COPIED OR DISCLOSED EXCEPT IN ACCORDANCE WITH AGREED UPON CONTRACTUAL TERMS.

A

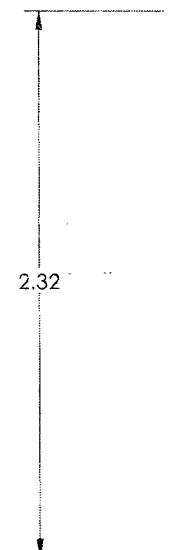


B



647.1612

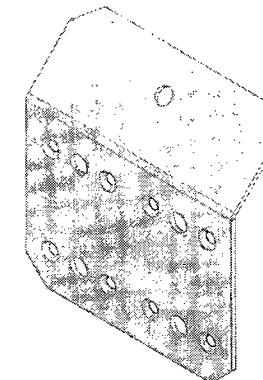
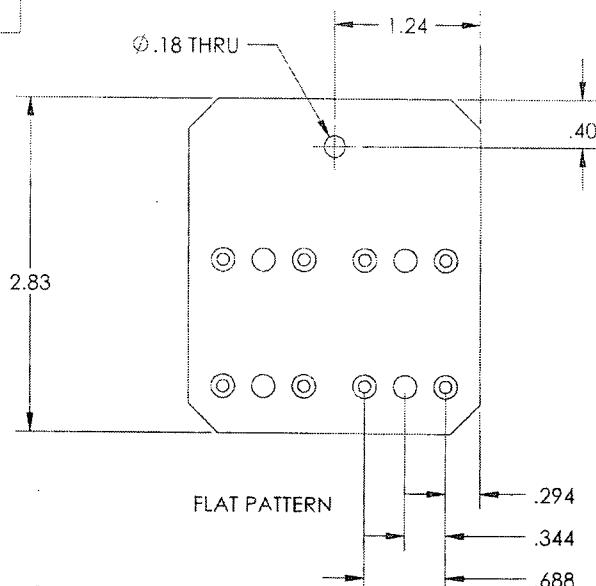
D



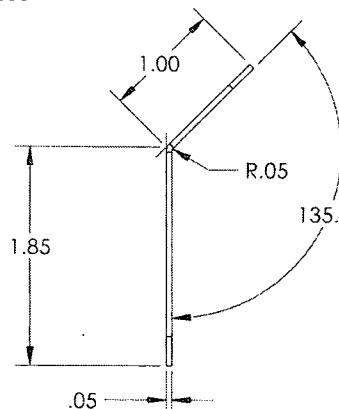
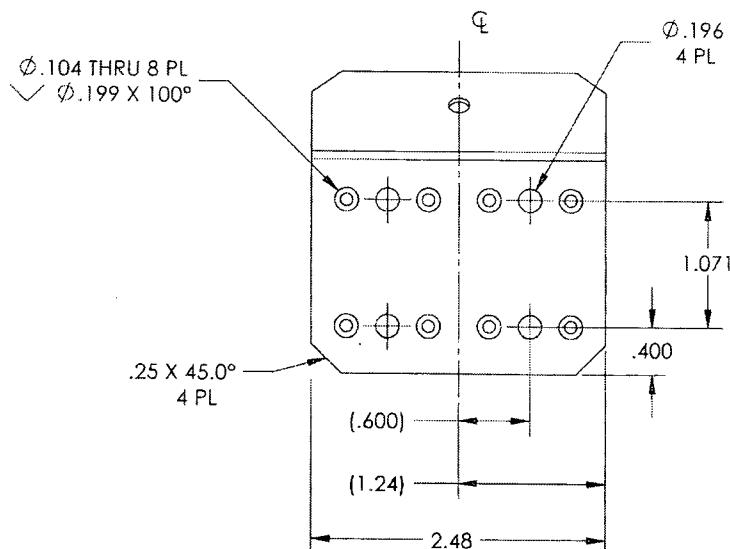
DRAWING DATE	04-09	APICAL INDUSTRIES
DRAWN BY	SP200	2608 TEMPLE HEIGHTS DR.
DESIGNED BY	P BRAVO	OCEANSIDE, CA. 92056-3512 (760)724-5300
DRAWING APPROVAL	P BRAVO	
CONTRACTING		WIPER DEFLECTOR ASSY
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		REV. B 07/16/00
FOR PARTS LIST, SEE		SCALE: NONE
3 PLACES DECIMAL, ± .002		1 SHEET 5 OF 6
ANGLES ± 3°		

THE PROPRIETARY RIGHTS IN THIS DRAWING ARE THE SOLE PROPERTY OF
ADVANTECH. ANY REPRODUCTION IN PART OR WHOLE IN WHATEVER
MEDIUM, WITHOUT PERMISSION OF ADVANTECH, IS PROHIBITED.

91998



647.161



Jean-Luc Menard

From: Alex Quan <aquan@apicalindustries.com>
Sent: April-18-13 11:34 AM
To: Dave Barker; Jean-Luc Menard; Pablo Bravo
Subject: RE: 647.1602 RIVET LENGTH

JL, you are right. They should be -03 rivets.

Alex

From: Dave Barker [<mailto:DBarker@dartaero.com>]
Sent: Thursday, April 18, 2013 8:24 AM
To: Jean-Luc Menard; Pablo Bravo; 'Alex Quan' (aquan@apicalindustries.com)
Subject: FW: 647.1602 RIVET LENGTH

JL – Pablo is out of the office, I've added Alex to the email. He should be able to confirm.

Thanks,

Dave

From: Jean-Luc Menard [<mailto:jmenard@dartaero.com>]
Sent: Thursday, April 18, 2013 5:12 AM
To: Pablo Bravo; 'David Barker'
Cc: Eric Downing
Subject: 647.1602 RIVET LENGTH

Hi Pablo/Dave,

We have started assembling the nutplates on the 647.1602 .

The dwg currently calls for CCR264SS3-04 that is on the right in the picture, on the left is a -04.

Think we should go for the -03.

Let me know what think, if you agree, I will issue a ECR.

Thx ,

JL